

Unschooling for Math Concepts

You really can teach math with an unschooling approach. You can create math opportunities during your day and eventually come up with math projects for older kids that don't feel like doing math with a curriculum.

Early Learning

We started counting on our fingers and then expanded that to counting other things.

Candy has been a great motivator with my kids. Once we learned to count to 20 then we brought in M&M's. We counted out 20 mini M&M's each on a tray or plate. Then we divided them by color. At first, we just counted by color and then counted up to the whole. As we progressed though we added two or three colors together and then we started figuring out how many candies were left without the yellow ones, for instance.

You can take this early M&M math in a lot of directions as your kids progress. The promise of getting to eat their manipulatives at the end of the lesson always made for very cooperative learners at my house.

Beyond the Basics

Once they have the basic concepts down you can move onto multiplication and division. We did skip counting with various items and even while doing high fives to keep them out of trouble while we were waiting in long lines at the store. You can even count the number of magazines of one kind and multiply it the number of titles and learn both multiplication and estimation, and if the line is long enough, count the rest to see how accurate you were. You can even extend the M&M math if you want to count out by colors or use another colorful manipulative to teach the idea of multiple addition and multiple subtraction.

LEGO's are also a great way to visually represent multiplication and division. The standard big brick has 8 studs. You typically have plenty of 2 stud and 4 stud pieces and can use this to visually represent multiplication and fractions.

Baking and cooking together also has incredible potential. It's a great way to teach fractions. Once they get the basics down then make it a little harder. You can find or create reasons to halve or double or triple recipes and help them easily learn how to multiple or divide fractions. Recipes with eggs add another level of difficulty as you can only reduce them by the number of eggs they have.

Getting Creative with Older Kids

I've tried a lot of approaches to get math on their minds as my kids have gotten older. We draw names for stockings and the kids have \$5 to spend on 12-16 items at local discount stores. Our one store often has a buy one get one similar item half off sales and they're pretty laidback on what they will count as "similar items." Most of their products are 39 cents or 79 cents or 99 cents, etc. This made for a great lesson in math and budgeting (I covered the sales tax on top of it) as the older ones did the math in their heads and often helped the little ones too. Figuring out the amount of sales tax you will owe and how much change you will get is also a great exercise, especially depending on your state's sales tax laws.

If your kids enjoy buying small presents, like mine do, you can do something like this for Easter baskets too. We throw in a few extra Easter Bunny items for the little kids just for fun, but my kids love doing things like this so I try to let them take a lot of it on.

When my kids started whining about the dinners we ate we rolled a math lesson in with some basic adulting and budgeting. My two teens got to cook and plan 2 meals each week and they got \$20 every two weeks to pay for it, plus having access to hamburger, milk, spices, cheese, eggs, and other basics we keep on hand. I would have to do \$10 a dinner now with price increases and bigger kids with bigger appetites. My then 9-year-old got to plan and cook one meal a week with a lot more help on the budgeting and cooking than the oldest ones got. They got to figure out how to have enough servings on a tight budget (which should serve them well in their college years) and how to cook some basic meals. Unschooling math concepts often overlaps into other skills and subjects, especially as kids get older.

My teens still have fond memories of M&M math when they were little and we stumbled across the fact that M&Ms aren't equally produced across colors a few years ago. These are the color mix numbers I found for Plain M&Ms:

24% Blue, 20% Green, 16% Orange, 14% Yellow, 13% Red, 13% Brown

You can buy multiple regular sized packages of M&Ms and compare each small package to these numbers and then see how they add up as a whole. My kids really wanted an excuse to buy the big Costco packages of M&Ms and compare the color ratios to see if it's closer to factory production in the biggest packages than it is in some of the smaller packages. If you decide to try this be sure to go online and look up the color production ratios for the kind of M&Ms you're going to be using. They are apparently different for Peanut, and Minis, and even Darks. My numbers are apparently only for the Plain variety.

We started discussing the Solstices and Equinoxes after watching the news one evening and a new math project grew out of that. We have birthdays spread across 5 months in our household so it worked really well, but depending on when your birthdays hit you might have to include friends or extended family members to make it interesting. Even though the solstice and Equinox dates vary a little between years we decided to make them constants for our

problem and used March 20, June 21, September 21, and December 21. We then estimated who would have the most daylight hours on their birthday to who would have the least. After estimating it we did the math. Our estimates were close, but we were all surprised to realize that October 31 and February 11 were almost the same distance from the Solstice because February days always felt longer to us. That gave us the opportunity to discuss biases in estimations and discuss why we might have felt that way (probably because the days are getting longer in February and they're getting shorter in October). We threw in mom and dad's anniversary as an additional variable too, just for fun.

Crafting has provided another great opportunity for integrating math. My oldest loves to crochet and she taught herself the geometry proofs for calculating the size on her projects and how much yarn she will need for a given crochet project. You can apply that with embroidery and sewing and all other kinds of crafting, as well. Altering patterns requires multiplying and dividing fractions if you want to maintain the way it will look and hang as a finished article.

Your approach to unschooling math probably won't look a lot like mine has. The idea is to have math in mind as you work on homeschool and everything involved in raising kids. Mine love to show off that they can do so much of this in their heads, and we have had to work a little harder to transition to doing it on paper and "showing your work" so that they will still be able to pass their college math classes. For me though the major goal was that my kids have a good basic understanding of the major math concepts. Showing your work can be taught after you understand how to do the problems and, even though they hate it, they have learned how to add that step in when they need to do it. In the homeschool community we often present unschooling as something we do and then "add a little math." I feel strongly that you can also do math without making it a distinctly formal thing and without only doing it through textbooks. We have tried math workbooks and textbooks over the years, but I have felt like my kids have gotten the most understanding of math as we have integrated it into daily life and other subjects and then explored it as it related to our interests and even our rabbit holes. I tried to engineer these learning opportunities around their interests at any given time and keep a distinctly child-led approach at its heart. The ideas I shared were mostly influenced by something my kids asked about or expressed an interest in doing together. Sometimes I've had to get creative to turn these things into a good math learning experience and not all of my experiments have been truly successful over the years, but most have been fun anyway. Give them the concept and explain how to find the answers and then work through it with them as necessary.